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| 10/607,040  | 06/27/2003  | Yuji Yoshida         | 1076.1088           | 6406             |
| 21171   | 7590        | 06/06/2006           | EXAMINER            |                  |
| STAAS & HALSEY LLP<br>SUITE 700<br>1201 NEW YORK AVENUE, N.W.<br>WASHINGTON, DC 20005 |             |                      | NGUYEN, MINH CHAU   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2145                |                  |

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/607,040

Applicant(s)

YOSHIDA, YUJI

Examiner

MINH-CHAU N. NGUYEN

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/27/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5,7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (Wang) (US 6,826,613 B1), and further in view of Bentley et al. (Bentley) (5,537,404).

2. Claim 1, Wang teaches a switch relay device for connecting at least one new device to a network including at least one host, the switch relay device comprising:

a switch (120) connected to the network (Col. 5, L. 5-17, L. 50-65; and figure 1A);

a switch (120) connected to each new device (i.e. device 130) (Col. 5, L. 5-17, L. 50-65; and figure 1A); and

Wang fails to teach a first physical layer circuit of the switch connected to the network; a second physical layer circuit of the switch connected to the device; and a link layer circuit, which is connected between the first physical layer circuit and the second physical layer circuit, to separate the first physical layer circuit and the second physical layer circuit from each other, wherein the link layer circuit does not reconfigure the network when the at least one of a new device is

connected or disconnected or when at least one of the new devices is switched. However, Bentley, in the same field of endeavor having closely related objectivity, teaches a first physical layer circuit of the switch connected to the network (figure 1; and Col. 1, L. 56-67; and Col. 2, L. 5-42; and Col. 4, L. 52-Col. 5, L. 2); a second physical layer circuit of the switch connected to the device (figure 1; and Col. 1, L. 56-67; and Col. 2, L. 5-42; and Col. 4, L. 52-Col. 5, L. 2); and a link layer circuit, which is connected between the first physical layer circuit and the second physical layer circuit, to separate the first physical layer circuit and the second physical layer circuit from each other, wherein the link layer circuit does not reconfigure the network when the at least one of a new device is connected or disconnected or when at least one of the new devices is switched (figure 1; and Col. 1, L. 56-67; and Col. 2, L. 5-42; and Col. 4, L. 52-Col. 5, L. 2; L. 55-Col. 6, L. 40).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of a first physical layer circuit of the switch connected to the network; a second physical layer circuit of the switch connected to the device; and a link layer circuit, which is connected between the first physical layer circuit and the second physical layer circuit, to separate the first physical layer circuit and the second physical layer circuit from each other, wherein the link layer circuit does not reconfigure the network when the at least one of a new device is connected or disconnected or when at least one of the new devices is switched, in the teachings of Wang in

virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

3. Claim 2, Wang teaches a switch (120) for switching the at least one of the new devices (130,135) (Col. 5, L. 5-17, L. 50-65; and figure 1A).

Wang fails to teach the link layer circuit transfers data between the first physical layer circuit and one of the second physical layer circuits that is connected the new device based on the switching operation of the switch. However, Bentley, in the same field of endeavor having closely related objectivity, teaches the link layer circuit transfers data between the first physical layer circuit and one of the second physical layer circuits that is connected the new device based on the switching operation of the network (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 55-Col. 6, L. 40).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of the link layer circuit transfers data between the first physical layer circuit and one of the second physical layer circuits that is connected the new device based on the switching operation of the switch, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs

between terminals of a telecommunication system where the data transmission is intermittent.

4. Claim 3, Wang and Bentley disclose the invention substantially as claimed. Wang teaches a memory device for reading device information from the new device and storing the device information (i.e. the switch 320 appears as a virtual storage device which includes a memory. The switch reads a handoff message/information from the first device 330 and stores this information with the address corresponding to the second device 335) (Col. 4, L. 39-65; and Col. 7, L. 10-Col. 8, L. 8; and figure 3).
5. Claim 4, Wang teaches sending one of the device information selected by the switch to the host based on the device information, which is prestored (i.e. the switch 320 sends the acknowledgment of the handoff of the first device 330 in return to the second device 335) (Col. 7, L. 10-Col. 8, L. 8; and figure 3).

Wang fails to teach an application layer circuit for sending the information selected by the switch to the host, and for controlling data transfer between the first physical layer circuit and the second physical layer circuit. However, Bentley, in the same field of endeavor having closely related objectivity, teaches an application layer circuit for sending the information selected by the switch to the host, and for controlling data transfer between the first physical layer circuit and

the second physical layer circuit (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of an application layer circuit for sending the information selected by the switch to the host, and for controlling data transfer between the first physical layer circuit and the second physical layer circuit, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

6. Claim 5, Wang and Bentley disclose the invention substantially as claimed. Bentley teaches the application layer circuit includes a generation unit for generating general purpose device information based on the device information (figure 1-2; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).
7. Claim 7, Wang teaches sending one of the device information selected by the host to the host based on the prestored device information (i.e. the first device 330 sends the acknowledgment of the handoff to the switch 320 (i.e. host)) (Col. 7, L. 10-Col. 8, L. 8; and figure 3).

Wang fails to teach an application layer circuit includes a sending unit for sending the information selected by the host to the host. However, Bentley, in the same field of endeavor having closely related objectivity, teaches an application layer circuit includes a sending unit for sending the information selected by the host to the host (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of an application layer circuit includes a sending unit for sending the information selected by the host to the host, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

8. Claim 8, Wang teaches a delaying unit for determining whether data is being transferred in the network when one of the new devices is switched by the switch and for delaying the occurrence of a bus reset when the data is being transferred until the data transfer process ends (Col. 10, L. 15-25; and Col. 11, L. 50-41; and Col. 15, L. 35-Col. 16, L. 30).

Wang fails to teach an application layer circuit. However, Bentley, in the same field of endeavor having closely related objectivity, teaches an application



Art Unit: 2145

layer circuit (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of an application layer circuit, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

9. Claim 9, Wang teaches a switch relay system for connecting at least one new device to a network including at least one host, the switch relay system comprising:

a switch (120) for switching at least one of the new devices (i.e. device 130,135) (Col. 5, L. 5-17, L. 50-65; and figure 1A); and

a control unit for detecting whether the at least one new device is connected or whether at least one of the new devices is switched by the switch, and for not reconfiguring the network when connection or switching is detected (Col. 1, L. 15-23; and Col. 5, L. 5-17, L. 50-65).

10. Claim 10, Wang and Bentley disclose the invention substantially as claimed.

Wang teaches when the connection or switching of the new device is detected,

the control unit causes a bus reset to occur only in the new device in which the connection or switching is detected (Col. 11, L. 50-Col. 12, L. 60).

11. Claim 11, Wang and Bentley disclose the invention substantially as claimed.

Wang teaches the control unit reads device information of the new device, detects whether one of the new devices is selected by the switch, sends the device information of the selected new device to the host of the network when one of the new devices is selected, and sends the device information of all of the new devices when none of the new devices is selected (i.e. the first device 330 reports the handoff message to the switch 320 and the second device when the second device is selected for take over the original role of the first device) (Col. 4, L. 20-65; and Col. 7, L. 10-Col. 8, L. 8; and Col. 11, L. 50-Col. 12, L. 60; and figure 3).

12. Claim 12, Wang teaches a switch relay device for connecting a plurality of devices to a network including a host, the switch rely device comprising:

a switch (120) which selectively connects and disconnects to a plurality of devices (130-135) (Col. 5, L. 5-17, L. 50-65; and figure 1A).

Wang fails to teach a plurality of device physical layer circuits, each device physical layer circuit being for connection to a device; a network physical layer circuit for connection to the network; a link layer circuit connected between the network physical layer circuit and the device physical layer circuits; and the

network physical layer circuit functions as a single node with respect to the network, even though the plurality of devices are connected or disconnected to the device physical layer circuits. However, Bentley, in the same field of endeavor having closely related objectivity, teaches a plurality of device physical layer circuits, each device physical layer circuit being for connection to a device (figure 1); a network physical layer circuit for connection to the network (figure 1; and Col. 2, L. 5-26); a link layer circuit connected between the network physical layer circuit and the device physical layer circuits (figure 1; and Col. 2, L. 5-35; and Col. 6, L. 15-25); and the network physical layer circuit functions as a single node with respect to the network, even though the plurality of devices are connected or disconnected to the device physical layer circuits (figure 1; and Col. 2, L. 5-26; and Col. 4, L. 35-Col. 5, L. 2).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of a plurality of device physical layer circuits, each device physical layer circuit being for connection to a device; a network physical layer circuit for connection to the network; a link layer circuit connected between the network physical layer circuit and the device physical layer circuits; and the network physical layer circuit functions as a single node with respect to the network, even though the plurality of devices are connected or disconnected to the device physical layer circuits, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a

method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

13. Claim 13, Wang teaches a device (130) is connected in accordance with the selection of the switch (120) (Col. 5, L. 5-17, L. 50-65; and figure 1A).

Wang fails to teach the link layer circuit transfers data between the network physical layer circuit, and one of the device physical layer circuits to which a device is connected in accordance with the selection of the switch. However, Bentley, in the same field of endeavor having closely related objectivity, teaches the link layer circuit transfers data between the network physical layer circuit (figure 1; and Col. 1, L. 55-Col. 2, L. 52), and one of the device physical layer circuits to which a device is connected in accordance with the selection of the switch (i.e. the local ISDN switch) (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of the link layer circuit transfers data between the network physical layer circuit, and one of the device physical layer circuits to which a device is connected in accordance with the selection of the switch, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs

between terminals of a telecommunication system where the data transmission is intermittent.

14. Claim 15, Wang teaches the first device sends the handoff message/information to the switch accordance with the device connected by the switch (host) (figure 1&3; and Col. 7, L. 10-Col. 8, L. 8; and figure 3).

Wang fails to teach an application layer circuit which sends the information from the memory through the network physical layer circuit to the host in accordance with the device connected by the switch to a device physical layer circuit. However, Bentley, in the same field of endeavor having closely related objectivity, teaches an application layer circuit which sends the information from the memory through the network physical layer circuit to the host in accordance with the device connected by the switch to a device physical layer circuit (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 5, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings an application layer circuit which sends the information from the memory through the network physical layer circuit to the host in accordance with the device connected by the switch to a device physical layer circuit, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing

connection costs between terminals of a telecommunication system where the data transmission is intermittent.

15. Claim 16, Wang teaches the first device 330 provides data which is transferred from the client to the second device 335 (figure 3; and Col. 6, L. 61-Col. 8, L. 8).

Wang fails to teach the application layer circuit and the device physical layer circuits. However, Bentley, in the same field of endeavor having closely related objectivity, teaches the application layer circuit and the device physical layer circuits (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 4, L. 35-Col. 5, L. 2, L. 25-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of the application layer circuit and the device physical layer circuits, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

16. Claim 17, Wang teaches when the switch selectively connects and disconnects to the plurality of devices, data is transferred between a device and the switch until the data transfer has completed (Col. 5, L. 5-17, L. 50-65; and Col. 6, L. 12-Col. 8, L. 8; and figure 1A).

Wang fails to teach the device physical layer circuits and the connection between the device and the network. However, Bentley, in the same field of endeavor having closely related objectivity, teaches the device physical layer circuits and the connection between the device and the network (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 4, L. 35-Col. 5, L. 2, L. 55-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of the device physical layer circuits and the connection between the device and the network, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

17. Claim 18, Wang teaches the device is connected in accordance with the selection of the switch (figure 1; and Col. 5, L. 50-65).

Wang fails to teach the link layer circuit transfers data between the network physical layer circuit, and one of the device physical layer circuits to which a device is connected in accordance with the selection of the switch. However, Bentley, in the same field of endeavor having closely related objectivity, teaches the link layer circuit transfers data between the network physical layer circuit, and one of the device physical layer circuits to which a

device is connected in the network (figure 1; and Col. 1, L. 55-Col. 2, L. 52; and Col. 4, L. 35-Col. 5, L. 2, L. 55-Col. 6, L. 25).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Bentley's teachings of the link layer circuit transfers data between the network physical layer circuit, and one of the device physical layer circuits to which a device is connected in the network, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

18. Claim 14 is corresponding claim of claim 3. Therefore, it is rejected under the same rationale.

19. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang and Bentley as applied to claim 1 above, and further in view of Minakuchi et al. (Minakuchi) (US 2001/0002365 A1).

20. Claim 6, Wang and Bentley are relied upon for the disclosure set forth in the previous rejection. Wang teaches includes a transferring and saving unit for determining a first device selected by the switch to store data received from the host (client) and for transferring the data stored in the first device to a second device while the handoff occurred in the first new device (figure 3; and Col. 3, L.



31-Col. 5, L. 17, L. 50-Col. 8, L. 8). In addition, Bentley teaches the application layer circuit (figure 1; and Col. 2, L. 5-35; and Col. 5, L. 25-54).

Wang fails to teach determining whether there is available memory space in the first device. However, Minakuchi, in the same field of endeavor having closely related objectivity, teaches determining whether there is available memory space in the first device (paragraph 169).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Minakuchi's teachings of determining whether there is available memory space in the first device, with Bentley's teaching of switched circuit connection management over public data network for wide area networks, in the teachings of Wang in virtually addressing storage devices through a switch, for the purpose of providing an improved method of data communications and a method of reducing connection costs between terminals of a telecommunication system where the data transmission is intermittent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JASON D. CARDONE can be reached on (571) 272-6159. The fax phone

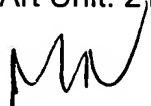
Art Unit: 2145

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Minh-Chau Nguyen

Art Unit: 2145



**JASON CARDONE**  
**SUPERVISORY PATENT EXAMINER**